WEST Search History

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DATE: Friday, April 29, 2005

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		DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; PLUR=YES; OP=ADJ	
☐	L20	L19 and ("posteriori")	2
☐	L19	L2 and ((Bayes with theor$4) with (("maximum a posteriori") or map))	2
☐	L18	L17 and ((Bayes with theor$4) with (("maximum a posteriori") or map))	1
☐	L17	l2 and ("maximum a posteriori")	6
☐	L16	l2 and ("posteriori")	14
☐	L15	L14 and l2	4
☐	L14	l10 and l1	9
☐	L13	L12 and l1	4
☐	L12	L11 and l10	7
☐	L11	Inguva.in.	9
☐	L10	Madarasz.in.	66
☐	L9	L8 and ((Bayes with theor$4) with (likelihood))	2
☐	L8	L7 and (digital$3 or condition$4 or probability)	15
☐	L7	L6 and (flow$4 or fluid$4 or blood or circulat$4 or (liquid with (move or moving or moved or movement or movable)) or parameter)	15
☐	L6	L5 and (noise or noisy or "SNR")	15
☐	L5	L4 and (maximum or map$4)	21
☐	L4	L3 and (likelihood)	26
☐	L3	L2 and (model$4 or simulat$4 or represent$4 or depict$4)	42
☐	L2	L1 and (Bayes with theor$4)	42
☐	L1	((magnetic adj resonance) or MRI or NMR)	201886

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040217760 A1

Using default format because multiple data bases are involved.

L13: Entry 1 of 4 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040217760
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040217760 A1

TITLE: Bayesian methods for flow parameter estimates in magnetic resonance imaging

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Madarasz, Frank L.	Madison	AL	US	
Inguva, Ramarao	Huntsville	AL	US	

US-CL-CURRENT: 324/307; 324/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 6636752 B1

L13: Entry 2 of 4 File: USPT Oct 21, 2003

US-PAT-NO: 6636752
DOCUMENT-IDENTIFIER: US 6636752 B1

TITLE: Measurement, data acquistion, and signal processing for a photonic molecular probe

DATE-ISSUED: October 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Madarasz; Frank	Madison	AL		
Engelhaupt; Darell	Madison	AL		
Wyly; James	Bow	NH		
Milelli; Joseph	Simi Valley	CA		
Inguva; Ramarao	Huntsville	AL		

US-CL-CURRENT: 600/310; 356/364

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 3. Document ID: US 6591121 B1

L13: Entry 3 of 4 File: USPT Jul 8, 2003

US-PAT-NO: 6591121
DOCUMENT-IDENTIFIER: US 6591121 B1

TITLE: Measurement, data acquisition, and signal processing

DATE-ISSUED: July 8, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Madarasz; Frank L.	Madison	AL		
Engelhaupt; Darell	Madison	AL		
Inguva; Ramarao	Huntsville	AL		
Krivoshik; David P.	East Amwell	NJ		
Milelli; R. Joseph	Simi Valley	CA		
Wyly; James K.	Bow	NH		

US-CL-CURRENT: 600/310; 356/364, 600/316

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 4. Document ID: US 20040217760 A1

L13: Entry 4 of 4 File: DWPI Nov 4, 2004

DERWENT-ACC-NO: 2004-812698
DERWENT-WEEK: 200480
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TITLE: Magnetic resonance imaging flow parameter estimating method for medical diagnosis, involves resolving magnetic imaging data with respect to magnetic resonance imaging model, using conditional probabilities based on Bayes` Theorem

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
(12 AND 1).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4
(L12 AND L1).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

L13: Entry 2 of 4 File: USPT Oct 21, 2003

DOCUMENT-IDENTIFIER: US 6636752 B1
TITLE: Measurement, data acquistion, and signal processing for a photonic molecular probe

INVENTOR (1):
Madarasz; Frank

INVENTOR (5):
Inguva; Ramarao

Detailed Description Text (44):
With this approach much more versatility is possible from the double pass than from a single pass device. Consider observing retardation data with the second mirror 27 in place. Assume 3600 data points are observed with a Fast Fourier Transform (FFT) taken of the difference of successive rows as the polarizer element 24 increments. For 360 values of the polarizer element 24 then 1.3 million values of retardation are decomposed to a transform spectrum, noting that this spectrum is not a discrete wavelength spectrum but an interferogram source spectrum none the less. A presentation of intensity transform vs. position of the analyzer 34 and the polarizer element 24 is a 3-D graphical representation of the chiral (and other absorption) interference due to the molecular activity in the finger cell 30. In order to excite polar molecules and molecules of low chiral activity (e.g. some substances other than glucose), it is possible to add the RF source 52. For analysis of very light elements direct current electrophoresis and/or a large magnetic field may also be required, utilizing NMR procedures.

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L13: Entry 3 of 4 File: USPT Jul 8, 2003

DOCUMENT-IDENTIFIER: US 6591121 B1
TITLE: Measurement, data acquisition, and signal processing

INVENTOR (1):
Madarasz; Frank L.

INVENTOR (3):
Inguva; Ramarao

Detailed Description Text (45):
With this approach much more versatility is possible from the double pass than from a single pass device. Consider observing retardation data with the second mirror 27 in place. Assume 3600 data points are observed with a Fast Fourier Transform (FFT) taken of the difference of successive rows as the polarizer element 24 increments. For 360 values of the polarizer element 24 then 1.3 million values of retardation are decomposed to a transform spectrum, noting that this spectrum is not a discrete wavelength spectrum but an interferogram source spectrum none the less. A presentation of intensity transform vs. position of the analyzer 34 and the polarizer element 24 is a 3-D graphical representation of the chiral (and other absorption) interference due to the molecular activity in the finger cell 30. In order to excite polar molecules and molecules of low chiral activity (e.g. some substances other than glucose), it is possible to add the RF source 52. For analysis of very light elements direct current electrophoresis and/or a large magnetic field may also be required, utilizing NMR procedures.

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Search Results - Record(s) 1 through 4 of 4 returned.

☐ 1. Document ID: US 20040217760 A1

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L15: Entry 1 of 4 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040217760
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040217760 A1

TITLE: Bayesian methods for flow parameter estimates in magnetic resonance imaging

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Madarasz, Frank L.	Madison	AL	US	
Inguva, Ramarao	Huntsville	AL	US	

US-CL-CURRENT: 324/307; 324/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KMC | Draw D

☐ 2. Document ID: US 6636752 B1

L15: Entry 2 of 4 File: USPT Oct 21, 2003

US-PAT-NO: 6636752
DOCUMENT-IDENTIFIER: US 6636752 B1

TITLE: Measurement, data acquistion, and signal processing for a photonic molecular probe

DATE-ISSUED: October 21, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Madarasz; Frank	Madison	AL		
Engelhaupt; Darell	Madison	AL		
Wyly; James	Bow	NH		
Milelli; Joseph	Simi Valley	CA		
Inguva; Ramarao	Huntsville	AL		

US-CL-CURRENT: 600/310; 356/364

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 3. Document ID: US 6591121 B1

L15: Entry 3 of 4 File: USPT Jul 8, 2003

US-PAT-NO: 6591121
DOCUMENT-IDENTIFIER: US 6591121 B1

TITLE: Measurement, data acquisition, and signal processing

DATE-ISSUED: July 8, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Madarasz; Frank L.	Madison	AL		
Engelhaupt; Darell	Madison	AL		
Inguva; Ramarao	Huntsville	AL		
Krivoshik; David P.	East Amwell	NJ		
Milelli; R. Joseph	Simi Valley	CA		
Wyly; James K.	Bow	NH		

US-CL-CURRENT: 600/310; 356/364, 600/316

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 4. Document ID: US 20040217760 A1

L15: Entry 4 of 4 File: DWPI Nov 4, 2004

DERWENT-ACC-NO: 2004-812698
DERWENT-WEEK: 200480
COPYRIGHT 2005 DERWENT INFORMATION LTD

TITLE: Magnetic resonance imaging flow parameter estimating method for medical diagnosis, involves resolving magnetic imaging data with respect to magnetic resonance imaging model, using conditional probabilities based on Bayes` Theorem

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

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Term	Documents
(14 AND 2).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4
(L14 AND L2).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	4

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Search Results - Record(s) 1 through 6 of 6 returned.

☐ 1. Document ID: US 20040217760 A1

Using default format because multiple data bases are involved.

L17: Entry 1 of 6 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040217760
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040217760 A1

TITLE: Bayesian methods for flow parameter estimates in magnetic resonance imaging

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Madarasz, Frank L.	Madison	AL	US	
Inguva, Ramarao	Huntsville	AL	US	

US-CL-CURRENT: 324/307; 324/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20030174900 A1

L17: Entry 2 of 6 File: PGPB Sep 18, 2003

PGPUB-DOCUMENT-NUMBER: 20030174900
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030174900 A1

TITLE: Accelerated signal encoding and reconstruction using Pixon method

PUBLICATION-DATE: September 18, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Puetter, Richard	San Diego	CA	US	
Yahil, Amos	Stony Brook	NY	US	
Pina, Robert	Ramona	CA	US	

US-CL-CURRENT: 382/260

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 3. Document ID: US 20020044698 A1

L17: Entry 3 of 6 File: PGPB Apr 18, 2002

PGPUB-DOCUMENT-NUMBER: 20020044698
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020044698 A1

TITLE: Acceleatated signal encoding and reconstruction using pixon mehtod

PUBLICATION-DATE: April 18, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Puetter, Richard	San Diego	CA	US	
Yahil, Amos	Stony Brook	NY	US	

US-CL-CURRENT: 382/265

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 4. Document ID: US 6490374 B2

L17: Entry 4 of 6 File: USPT Dec 3, 2002

US-PAT-NO: 6490374
DOCUMENT-IDENTIFIER: US 6490374 B2

TITLE: Accelerated signal encoding and reconstruction using pixon method

DATE-ISSUED: December 3, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Puetter; Richard	San Diego	CA		
Yahil; Amos	Stony Brook	NY		

US-CL-CURRENT: 382/265; 382/205, 382/275

Full | Title | Citation | Front | Review | Classification | Date | Reference | Claims | KWIC | Draw D

☐ 5. Document ID: US 6353688 B1

L17: Entry 5 of 6 File: USPT Mar 5, 2002

US-PAT-NO: 6353688
DOCUMENT-IDENTIFIER: US 6353688 B1

TITLE: Accelerated signal encoding and reconstruction using pixon method

DATE-ISSUED: March 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Puetter; Richard	San Diego	CA		
Yahil; Amos	Stony Brook	NY		

US-CL-CURRENT: 382/265; 382/205, 382/270

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

☐ 6. Document ID: US 5912993 A

L17: Entry 6 of 6 File: USPT Jun 15, 1999

US-PAT-NO: 5912993
DOCUMENT-IDENTIFIER: US 5912993 A
**** See image for Certificate of Correction ****

TITLE: Signal encoding and reconstruction using pixons

DATE-ISSUED: June 15, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Puetter; Richard C.	San Diego	CA		
Pina; Robert K.	San Diego	CA		

US-CL-CURRENT: 382/275; 382/228

Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D

Clear | Generate Collection | Print | Fwd Refs | Bkwd Refs | Generate OACS

Term	Documents
"MAXIMUM A POSTERIORI"	0
(2 AND "MAXIMUM A POSTERIORI").PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	6
(L2 AND ("MAXIMUM A POSTERIORI")).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	6

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☐ 1. Document ID: US 20040217760 A1

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L18: Entry 1 of 1 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040217760
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040217760 A1

TITLE: Bayesian methods for flow parameter estimates in magnetic resonance imaging

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Madarasz, Frank L.	Madison	AL	US	
Inguva, Ramarao	Huntsville	AL	US	

US-CL-CURRENT: 324/307; 324/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Term	Documents
BAYES	2350
BAYE	602
"MAXIMUM A POSTERIORI"	0
MAP	243608
MAPS	87499
THEOR$4	0
THEOR	8301
THEORA	15
THEORAC	1
THEORACAL	1
THEORACE	1

(L17 AND ((BAYES WITH THEOR$4) WITH (("MAXIMUM A POSTERIORI") OR MAP))).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	1

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Search Results - Record(s) 1 through 2 of 2 returned.

☐ 1. Document ID: US 20040217760 A1

Using default format because multiple data bases are involved.

L20: Entry 1 of 2 File: PGPB Nov 4, 2004

PGPUB-DOCUMENT-NUMBER: 20040217760
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040217760 A1

TITLE: Bayesian methods for flow parameter estimates in magnetic resonance imaging

PUBLICATION-DATE: November 4, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Madarasz, Frank L.	Madison	AL	US	
Inguva, Ramarao	Huntsville	AL	US	

US-CL-CURRENT: 324/307; 324/309

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

☐ 2. Document ID: US 20030068097 A1

L20: Entry 2 of 2 File: PGPB Apr 10, 2003

PGPUB-DOCUMENT-NUMBER: 20030068097
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030068097 A1

TITLE: Adaptive mean estimation and normalization of data

PUBLICATION-DATE: April 10, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wilson, Sanford L.	Chelmsford	MA	US	
Green, Thomas J. JR.	Oak Hill	VA	US	
Van Allen, Eric J.	Woburn	MA	US	
Payne, William H. JR.	Nashua	NH	US	
Smith, Steven T.	Cambridge	MA	US	

US-CL-CURRENT: 382/276

Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | KWIC | Draw D

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Term	Documents
POSTERIORI	2547
POSTERIORIS	0
(19 AND POSTERIORI).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2
(L19 AND ("POSTERIORI")).PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD.	2

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L20: Entry 2 of 2 File: PGPB Apr 10, 2003

PGPUB-DOCUMENT-NUMBER: 20030068097
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030068097 A1

TITLE: Adaptive mean estimation and normalization of data

PUBLICATION-DATE: April 10, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Wilson, Sanford L.	Chelmsford	MA	US	
Green, Thomas J. JR.	Oak Hill	VA	US	
Van Allen, Eric J.	Woburn	MA	US	
Payne, William H. JR.	Nashua	NH	US	
Smith, Steven T.	Cambridge	MA	US	

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	COUNTRY	TYPE CODE
Massachusetts Institute of Technology	Cambridge	OH		02

APPL-NO: 10/ 172250 [PALM]
DATE FILED: June 14, 2002

RELATED-US-APPL-DATA:
Application is a non-provisional-of-provisional application 60/298479, filed June 15, 2001,

INT-CL: [07] G06 K 9/36

US-CL-PUBLISHED: 382/276
US-CL-CURRENT: 382/276

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

A method of determining a mean for a data set of data element values. A form of a probability density function statistical distribution is selected for each data element of the data set, based on the value of that data element. Then a mean of the probability density function of each data element is estimated, by, e.g., a digital or analog processing technique. The estimated mean of each data element's probability density function is then designated as the mean for that data element. In a method of normalizing a data set of data element values based on estimated probability density function means of the data set, each data element value in the

data set is processed based on the estimated mean of the probability density function of that data element to normalize each data element value, producing a normalized data set.

[0001] This application claims the benefit of U.S. Provisional Application No. 60/298,479, filed Jun. 15, 2001, the entirety of which is hereby incorporated by reference.

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L20: Entry 2 of 2 File: PGPB Apr 10, 2003

DOCUMENT-IDENTIFIER: US 20030068097 A1
TITLE: Adaptive mean estimation and normalization of data

Summary of Invention Paragraph:
[0015] The probability density function mean estimation and normalization processes provided by the invention can be applied to a wide range of data set applications, e.g., processing of images, ultrasound, MRI, X-ray, radar, sonar, radio and video, communications signals, and other such applications. Normalization of a data set in accordance with the invention provides for dynamic range reduction of a data set, thereby to enable, e.g., simultaneous display of the entire dynamic range across an image. Normalization of a data set in accordance with the invention also provides for reduction of noise in a data set, thereby to enable precise measurement and analysis of the data set.

Detail Description Paragraph:
[0050] This probabilistic adjustment can be implemented based on a number of estimation procedures provided by the invention, as explained in detail below. One particularly preferably estimation procedure, the Maximum a posteriori (MAP) estimation procedure, further accommodates data element values that significantly depart from the assumed data element pdf; in other words, no local limit on data element values is required. But even without such a data element value limit, the pdf mean estimation method of the invention does not bias the estimated pdf mean of a data element that has a value which significantly departs from that of neighboring elements. This results in preservation of local contrast between data element values even after normalization of the data set. The pdf mean estimation method of the invention thereby overcomes the inability of conventional averaging techniques to preserve meaningful data characteristics, and eliminates the operational failures generally associated with such averaging techniques.

Detail Description Paragraph:
[0065] where this expression formally defines the statistical mean of the a posteriori pdf of a data element.

Detail Description Paragraph:
[0069] where .gradient. is the gradient operation in the space of the dimensions of the data set X. This expression is called the maximum a posteriori, or MAP estimate, of the statistical means of data element pdfs, and will be denoted by {circumflex over (x)}.sub.MAP. Although the mean square error estimator technique described above, as well as a range of alternative estimation techniques, are also viable, it can for many applications be preferred to employ a MAP estimation technique, and such is preferred in accordance with the invention. In most cases the computational requirements of carrying out the derivatives of expression (9) are less than that of carrying out the integration required of expression (7) above.

Detail Description Paragraph:
[0073] which is the definition of the median of the a posteriori density. In many cases the mean square estimate, the absolute value estimate, and the MAP estimate

are all equal and thus using the one that is most efficient is equivalent to using any of the other cost functions. This is a special case of a much more general result for a large class of cost functions possessing either of two properties, the first of which requires that the a posteriori density function p.sub.X.vertline.Z (X.vert- line.Z) be symmetric about its conditional mean and be a unimodal function that satisfies the following condition:

Detail Description Paragraph:
[0074] and that the cost function, C(x), be a symmetric nondecreasing function. This property is possessed by the uniform cost function that leads to the MAP estimate preferred in accordance with the invention. The second property requires that the a posteriori density function p.sub.X.vertline.Z(X.vertline.Z) be symmetric about its conditional mean and that the cost function C(x) be symmetric and convex upward, that is, it must satisfy the following two properties:

Detail Description Paragraph:
[0077] Given the selection of a MAP estimator, Bayes' theorem gives an expression of the a posteriori density that separates the role of the observed set data elements, Z, and the a priori knowledge of the pdf means of the data elements, given by p.sub.X(X) ,as: 6 p X | Z (X | Z) = p z | x (Z | X) p x (X) p Z (Z) , (15)

Detail Description Paragraph:
[0347] Other biomedical images that can benefit from pdf mean estimation and normalization processes provided by the invention include magnetic resonance imaging (MRI) as well as other image acquisition and analysis processes, including video transmission and display. Radio transmission, reception, and play, and other communication signals similarly can be enhanced by the processes of the invention.

CLAIMS:

16. The normalization method of claim 6 wherein producing an n-dimensional data set of data element values comprises producing an n-dimensional data set based on an acquired magnetic resonance image, wherein the data element values represent magnetic resonance image values.

38. The normalization method of claim 1 wherein estimating the mean of the probability density function of each data element comprises a maximum a posteriori estimation of the mean.

39. The normalization method of claim 38 wherein the maximum a posteriori estimation of the mean comprises a successive-line-over-relaxation solution of a maximum a posteriori matrix system expression.

40. The normalization method of claim 38 wherein the maximum a posteriori estimation of the mean comprises at least two iterations of solution of a maximum a posteriori system expression.

41. The normalization method of claim 38 wherein the maximum a posteriori estimation of the mean of the probability density function of each data element comprises selecting a form of a statistical distribution, across the data set, of the probability density function means to be estimated for the data elements of the data set.

58. The mean determination method of claim 48 wherein producing an n-dimensional data set of data element values comprises producing an n-dimensional data set based on an acquired magnetic resonance image, wherein the data element values represent magnetic resonance image values.

76. The mean determination method of claim 47 wherein estimating the mean of the

probability density function of each data element comprises a maximum a posteriori estimation of the mean.

77. The mean determination method of claim 76 wherein the maximum a posteriori estimation of the mean comprises a successive-line-over-relaxa- tion solution of a maximum a posteriori matrix system expression.

78. The mean determination method of claim 76 wherein the maximum a posteriori estimation of the mean comprises at least two iterations of solution of a maximum a posteriori system expression.

79. The mean determination method of claim 76 wherein the maximum a posteriori estimation of the mean of the probability density function of each data element comprises selecting a form of a statistical distribution, across the data set, of the probability density function means to be estimated for the data elements of the data set.

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